

reviews

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Z~TERM™

"THE PROFESSIONAL"

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\$149.95
8080 Z80, 6502 Assembly Language
Variety of peripherals
Rating: AA

Reviewed by John Mitchener

INTRODUCTION

Z-Term, "The Professional" (Z-PRO) is a CP/M based communications package which includes a buffer to capture text that is sent or received over a modem, a keyboard macro feature that simplifies login procedures for mainframes, and the capability to transfer files with full error checking using the Christensen MODEM protocol. PAN protocol is also available. Baudot code may be used by hearing-impaired individuals for connection to DEAFNET and to baudot terminals if you have the Novation CAT modem. Z-PRO is an enhanced version of Z-Term that I reviewed in the Mar-Apr 81 issue.

HARDWARE REQUIREMENTS & CONFIGURATION

One of the most pleasant things about the current crop of software is the compatibility with a large number of peripheral cards. Z-PRO supports the following peripheral cards:

- Hayes Micromodem II
- Apple Communications Card
- SSM AIO Board
- CCS Asynchronous Serial Board 7710A (or D)
- ESI Apple LYNX system
- Novation Apple CAT
- MicroPeripherals Micro Connection
- Hayes SmartModem (w/compatible interface)
- Mountain Computer CPS card
- Mountain Computer Clock
- CCS 7424 Calendar Clock Module

Thunderware ThunderClock

All CP/M compatible 80-column display cards work with Z-PRO. I have used both DoubleVision and the Videoterm with success.

Configuration of the program to your system is easy and requires a minimum of effort unless you have one of the cards that requires a change from the default parameters. These cards include the Apple CAT, Micro Connection, and the CPS card. Instructions are given in the manual for making the changes to the program to accommodate these cards.

Z-PRO MENU

The total menu for Z-PRO is two pages. The first page is the main menu and includes the most commonly used commands; however, commands from both menus are available at any time. If you remember the letter for the command, you need only type a CTRL-Q, followed by the letter. A second CTRL-Q displays the main menu which includes the following commands:

! - Display program status	M - Macro group select
C - Clear buffer	P - Printer on/off
D - Dial or connect	R - Copy on/off
E - Echo — duplex full-half	S - Send file
G - Get file from host (protocol)	U - Secondary menu
H - Hang-up	V - View current buffer
I - Disk directory	W - Write to file & clear buffer
J - View disk file	X - Exit to CP/M
L - Change logged disk	

A short explanation of some of the commands is necessary to show a few of the differences between the professional version and the earlier Z-Term. The "Show program status" command is used to determine the status of the various option flags in the program. These include whether the copy buffer is on or off, the status of autosave mode, keyclick on or off, printer on or off, etc., for a total of twelve different flags.

The Dial command has been enhanced over Z-Term with several additional options to make life a bit easier and let the computer take care of the things that it does best. A "/" response to the number prompt means to redial the last number called. You may also specify "/x" where x is the number of times the number is to be redialed. When a connection is established, the speaker is beeped three times. Responding to the number prompt with "/" causes the system to redial indefinitely with the same three bells when a connection is

established. There are some dangers here. If you set up to redial the number of that busy bulletin board and leave the room, you may be in for a larger phone bill than you expected. Another option allows you to specify the number from one of the macro groups. Z-PRO supports the Apple CAT modem by allowing for a switch from pulse to tone dialing and performing a check for carrier or dial tone.

The buffer space is somewhat reduced over Z-Term as a result of the increased options available in Z-PRO. The Z-PRO buffer is 31825 bytes which is still room to capture some very large files.

PROTOCOLS

One of the best features of Z-PRO is the protocol transfer of files. Two types are available: Pan and Christensen. The protocol used in the Get command is the Christensen protocol. The major advantage of this protocol is that files being transferred are checked for errors after each block is sent and, if an error is detected, the block is retransmitted. The Christensen protocol is often implemented on Remote CP/M systems as a program called MODEM or XMODEM. Many of these systems are public access and offer good programs in the public domain.

The Get command is easy to use. You first must set up the remote to send using the Christensen protocol. The program at the remote may be Z-PRO, MODEM, or another program which implements the protocol. Once the setup is made, issuing the Get command on your computer causes a prompt for the filename, then the transfer is handled automatically. Since I have no experience with the PAN protocol, a description from the manual is provided:

"Z-PRO also supports the PAN protocol (a subset of PCnet) for the sending and receiving of forwarded mail by other Z-PROs or PAN systems. It is the simple but effective protocol for non-critical mail exchange. This is an open buffer type exchange with no handshaking or error checking."

An excellent program always goes beyond just doing the job; it should make the job easier and take steps to overcome hardware shortcomings. Z-PRO, as well as the original Z-Term, has the capability to transmit all of the ASCII characters, including those that cannot be produced directly with the Apple keyboard. This is done using a prefix character of CTRL-W and then another key. Even though this is not as convenient as a full keyboard, it is better than not being able to generate the characters at all.

In addition to sending a command string with a single keystroke, you may also send multiple commands to the remote with the single keystroke, an expansion of the macro capability. Macros may contain Z-PRO commands to perform such actions as turning on the copy buffer automatically whenever you execute a particular macro. There is also a capability to execute an automatic login procedure when carrier is detected, complete with appropriate handshaking with the remote host. Such a feature makes the use of Z-PRO a real joy.

The macro file may be up to 2048 characters in length and may contain up to twelve groups of twelve macro commands per group. If this is still not enough, you may set up additional macro files that can be loaded when you first run Z-PRO. Setting up macro files can be somewhat of a challenge. It is much like writing a small program with specific syntax and symbols to perform the various functions, such as: delay, look for character from the host, send a literal, or execute a Z-PRO command. Once the macro is completed, it should be tested with the system for which it is designed. The amount of delay is a critical factor with some systems and so the timing may need adjustment. Use of the completed macro file simplifies the communications process considerably.

SENDING A FILE

Several options are available for sending a file to a remote system. First you must decide whether to use one of the protocols mentioned earlier or to use a standard transmission. Two types of standard mode are available: one line at a time or one character at a time. The line mode is used when the host system can accept data at a sustained rate of 300 baud. In this mode, you may cause Z-PRO to wait for a specific character before transmitting the next line. The speed of transmission may be varied somewhat with the left and right arrow keys providing more flexibility with certain systems. If the line mode does not work with the host, you may be able to use the character mode. In this case one character is sent and the next character is not sent until the previous one is echoed from the remote. Obviously much slower, this mode will not work on a half duplex system.

SECONDARY MENU OPTIONS

You probably will not use the options in the secondary menu that often, but some are important.

A - Show Control characters	F - File
B - Baud rate change	R - Received data
K - Terminal chat mode	S - Sent data
N - Set delay after c/r	Z - Screen format on/off
O - Auto-save on/off	: - Auto-disconnect on/off
Q - Main command menu	@ - Apple CAT voice modes
T - Transpose [®] H/RUB	[®] - Apple CAT port switch
Y - Set protocol options	+ - Answer phone
N - No show	" - Keyclick on/off
S - Show	/ - Do CRC

The Show Control characters option is useful for determining exactly what the remote host is sending. Primarily, it is used for troubleshooting or finding out what character to wait for when sending a file in the line mode.

When a file you are capturing in the buffer may exceed the buffer size, use the Auto-Save feature. This option will work if the host sending the file recognizes XON/XOFF protocol. As the buffer becomes full, Z-PRO sends the XOFF character, which you may specify, and then continues to receive for six seconds. The extra time gives the host an opportunity to respond to the XOFF character and stop sending. You will be prompted for a file name and, after completing a successful save, Z-PRO will send the XON character to start the transmission again. This is an excellent way to implement XON/XOFF. Most systems do not respond instantly to XOFF, so data may be lost if the program doesn't continue to save data for a period of time.

The Set Protocol Options command allows viewing both incoming and outgoing data. Its usefulness is primarily for diagnostic purposes.

The Screen format command causes a carriage return and line feed to be issued at the column specified during configuration. The default is column 79.

The keyclick routine is a pleasant enhancement, although I'm sure there are those who would disagree. With this mode on, each time a key is pressed, the speaker clicks leaving no question as to whether the key was pressed or not. Some people may not find this beneficial which is one reason for a turn-off feature.

One of the advantages of protocol file transfers is the high degree of reliability possible. The Do CRC command executes a Cyclic Redundancy Check (CRC) on any kind of CP/M file. The same type of program is generally available on remote CP/M systems. An excellent way of determining that the Christensen protocol transfer was accomplished without error is to do a CRC on the file at your end and another on the original file on the remote. If the values match, the file should be ok.

CUSTOMIZING Z-PRO

Z-PRO can be customized to your individual needs with the program CMOD.COM furnished with Z-PRO. The possible modifications are too extensive to detail in a review, but you may change all of the default values, set up to emulate various terminals (with appropriate hardware), and configure for the Apple CAT modem and others. Since the program itself is not locked, you may create several versions to be used with a variety of hosts.

DOCUMENTATION

Documentation for Z-PRO is 119 pages in a padded binder. The table of contents serves as an effective index and I had little trouble finding information in the manual.

EVALUATION

Z-PRO is clearly one of the most powerful communications packages available for the Apple and the Z80 Softcard. The enhancements made over Z-Term are significant, including the addition of protocol file transfers and the use of auto-login commands within macros. The hardware lock* that plugs into the game I/O is not obtrusive, because the socket is extended through the top of the lock, allowing the paddles to be plugged in all of the time. The program's compatibility with virtually all types of modems at speeds up to 1200 baud contributes to the usefulness of this package for serious CP/M users.

*** (Please note: Z-PRO no longer contains a hardware lock.)**